CLAIMS

We claim:

1. A method of reducing superoxide damage to a cell, comprising the step of engineering the cell to produce more than the native amount of the YggX protein or its homolog, wherein the cells are rendered more resistant to superoxide damage.

2. The method of claim 1 additionally comprising the step of analyzing the cell to determine that the cells are rendered more resistant to superoxide damage.

3. The method of claim 1 wherein the cell is a bacterial cell.

4. The method of claim 1 wherein the cell is a yeast cell.

5. The method of claim 1 wherein the cell is a mammalian cell.

6. The method of claim 1 wherein the cell is a plant cell.

7. The method of claim 1 wherein the YggX protein is used.

8. The method of claim 1 wherein a YggX protein homolog is used and wherein the homolog comprises the amino acid sequence motif MXRXXXCXXXXXXXXXXXXXXXPXXXGXXXXXXXXXXXWXXWXXXQTXLX NEXXLXXXXXXXRXX, wherein X is any amino acid.

9. A method of increasing the resistance of an oxygen-labile protein to oxidative damage, comprising the step of co-expressing the oxygen-labile protein with the YggX protein or a homolog of the YggX protein in a host cell.

10. The method of claim 9 additionally comprising the step of examining the oxygen-labile protein to determine the amount of oxidative damage.

11. The method of claim 9 wherein the co-expression is within a bacterial cell.

12. The method of claim 9 wherein the co-expression is within a mammalian cells.

13. The method of claim 9 wherein the co-expression is within a yeast cell.

14. The method of claim 9 wherein the co-expression is within a plant cell.

15. A method of screening compounds for antibiotic properties, comprising the step of examining a test compound's ability to affect YggX

activity or the activity of a YggX homolog, wherein decreased YggX activity indicates that the compound is a likely candidate as an antibiotic.